

# NIH.

# record

FEDERAL SECURITY AGENCY

Vol. II, No. 5 - 27 March 1950

PUBLIC HEALTH SERVICE  
NATIONAL INSTITUTES OF HEALTH

## NIH HOST TO MANY STUDENT VISITORS

### SCIENCE TALENT- SEARCH WINNERS

The National Institutes of Health were visited March 6 by 11 budding scientists--10 boys and 1 girl--representing the 40 national high school winners in the Ninth Annual Science Talent Search conducted by the Science Clubs of America and sponsored by the Westinghouse Educational Foundation.

Dr. Norman Topping, Associate Director of NIH, welcomed the group and spoke informally on the research activities of the Institutes.

Visits to the Microbiological Institute, National Cancer Institute, and Experimental Biology and Medicine Institute gave the young scholars a good idea of the scientific work carried on here in these fields. The group seemed to be particularly interested in biology.

Dr. Edward A. Beeman, virologist of the Rickettsia Unit, Laboratory of Infectious Diseases, MI, discussed studies of viruses that produce paralysis in suckling rodents (coxsackie virus). The National Cancer Institute showed the students the method of testing chemical compounds as part of the screening program for developing chemotherapeutic agents against cancer.

The students were deeply interested in the work of Dr. W. E. Heston, geneticist in the NCI Biology Section, who spoke on investigations of hereditary influence on the development of tumors in mice.

Staff members of the Experimental Biology and Medicine Institute discussed their research work, and pointed out that nocardia,



*Student nurses view  
Amoeba histolytica at MI.*



*Dr. Heston, NCI, shows highly inbred  
mouse to Science Talent Winners.*

a new antibiotic, discovered during the past year, may prove of value in the treatment of tuberculosis.

The students saw photographs, taken with an electron microscope, that showed the internal structure of a molecule and what happens inside a bacterium when it is attacked by a virus. Later in the afternoon, the students visited the Molecular Biophysics Section, Laboratory of Physical Biology, EBMI, where Vernon M. Mosley, physicist, demonstrated the electron microscope and its application to the study of viruses.

The average age of the students was 18 years. They represented many States, and their scientific interests ranged from genes to cosmic rays.

### CATHOLIC UNIVERSITY GRADUATE NURSES

More than 50 graduate nurses from the School of Nursing Education, Catholic University of America, Washington, visited NIH on March 13 as part of their field studies in medicine, surgery, psychiatry, pediatrics and other subjects.

The group included Miss Mary G. Gabig, instructor in Medical and Surgical Nursing at the School of Nursing Education, and Sister

(See GRADUATE NURSES, Page 3)

### BATTER UP! APRIL 10 (WEATHER PERMITTING)

If it doesn't pour cats and dogs, our softball enthusiasts will play their first practice game of the season at 12 noon, Monday, April 10, on the diamond near the main entrance to NIH.

Dr. Norman Topping, Associate Director of NIH, is expected to throw the first ball.

Exactly one week earlier, at 12 noon of April 3, members of the NIH Softball Association will meet in Wilson Hall to discuss plans and elect officers for 1950. If you want to play this year, be sure to attend on April 3. Or phone Britton Smith, NCI, Ext. 336, before the meeting.

Last year, three teams, composed of 16 players each, competed in the NIH League. This year the League expects to have at least four teams. At least.

## Science Elsewhere

### VD Research Lab to Atlanta

The Venereal Disease Research Laboratory, PHS, is being reestablished in the Communicable Disease Center, Atlanta, Georgia.

For many years the laboratory has been located at the Marine Hospital in Staten Island, New York. Transfer of equipment and personnel is now in progress.

The new location of the laboratory will facilitate the coordination of serologic evaluation with the varied research activities in venereal disease now conducted at CDC. In addition, the research activities will be carried out in an area in which the prevalence of venereal disease is high.

Though the laboratory will be located at CDC, it will remain under the technical supervision of the Division of Venereal Disease. Mr. Ad Harris, who has served as Chief Serologist at the New York laboratory for a number of years, will continue in the same capacity in Atlanta.

The Venereal Disease Research Laboratory will continue to furnish the health departments of all States with the same services offered in the past.

### TRIPS AND MEETINGS

The National Institute of Dental Research is well represented at a meeting of the International Association for Dental Research at French Lick, Indiana, March 24-29. The following papers are being presented:

1. "The Incidence of Penicillin-Fast Lactobacilli in the Salivas of Children Using a Penicillin Tooth Powder," Dr. Robert J. Fitzgerald.
2. "Electron Microscopy of Dentin," Dr. David B. Scott.
3. "Frequency Distribution of Lactobacillus Types in the Salivas of Children," Dr. Morrison Rogosa.
4. "Fluorine Content of Teeth," Dr. F. J. McClure.
5. "The Effect of Fatty Acids on the *in Vitro* Growth of Some Oral Bacteria," Dr. Robert M. Stephan.

## NO. 20 IN A SERIES

### Studies in Shock

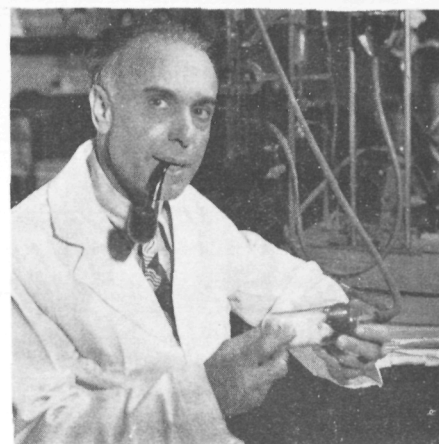
Progress in the control of shock, the frequently fatal collapse following severe injury, burns, or hemorrhage, has been reported by two scientists of the Experimental Biology and Medicine Institute, Dr. Sanford M. Rosenthal, Chief of the Section on Pharmacology and Toxicology, and Dr. Herbert Tabor.

Using mice as experimental subjects, methods were worked out for the production of typical cases of shock under a variety of conditions, for the demonstration of biochemical alterations, and for evaluation of various types of treatment.

The experiments have shown that two mechanisms are involved in the production of shock--a fluid and sodium deficiency and a toxic factor.

It was found that the fluid and sodium deficiency could be corrected by administering large amounts of salt solution, in a concentration similar to that of the extracellular fluids of the body. The sodium deficiency seems to be the most important factor, for saline therapy alone prevented death in nearly all of a group of animals that would otherwise have died as a result of the standardized injury. Of practical significance is the fact that the treatment was effective when given by mouth.

In an effort to explain the beneficial effect of saline therapy, sodium and potassium studies were carried out on the injured tissues. A marked loss of body salt into the damaged area was indicated, and



Dr. S. M. Rosenthal

potassium was released from this area into the rest of the body. A study of the urine also confirmed the view that shock is largely a result of sodium deficiency, associated with a toxic increase in potassium concentration.

The second factor in the production of shock was found to be a toxic substance from the injured tissues. This factor depresses the circulation and profoundly disturbs cell metabolism.

The animals can no longer maintain body temperature, so they literally freeze to death in a day or two at 18° C. (65° F.). This disturbance is not benefited by sodium administration or any other known therapy. It is promptly corrected, however, by tying off the injured tissues. Work in progress is directed toward determining the nature of the toxic factor and finding an effective treatment.

present a paper entitled "The Constitution of Podophyllotoxin."

Dr. Benjamin Highman of EBMLPP will attend the annual meetings of the American Association of Pathologists and Bacteriologists and the International Association of Medical Museums to be held in Madison, Wis., where he will present a paper entitled "Histochemical Study of Certain Iron Ore Dusts."

Dr. Milton J. Allen, Endocrinology Section of NCI, will speak before the chemistry department at Johns Hopkins University, March 29, on the application of electrochemical methods in the synthesis of some new physiologically active compounds.

Drs. J. L. Hartwell and Anthony Schrecker, Chemotherapy Section, NCI, will attend the meeting of the American Chemical Society on April 10, Philadelphia. They will

## THOUSANDS SEE FIRST SHOWING OF CANCER FILM

Scores of scientists, laboratory workers, and other NIH personnel saw the new film "Challenge: Science Against Cancer" during eight special showings in Wilson Hall March 16 and 17. The film is sponsored jointly by the National Cancer Institute and the Canadian Department of National Health and Welfare.

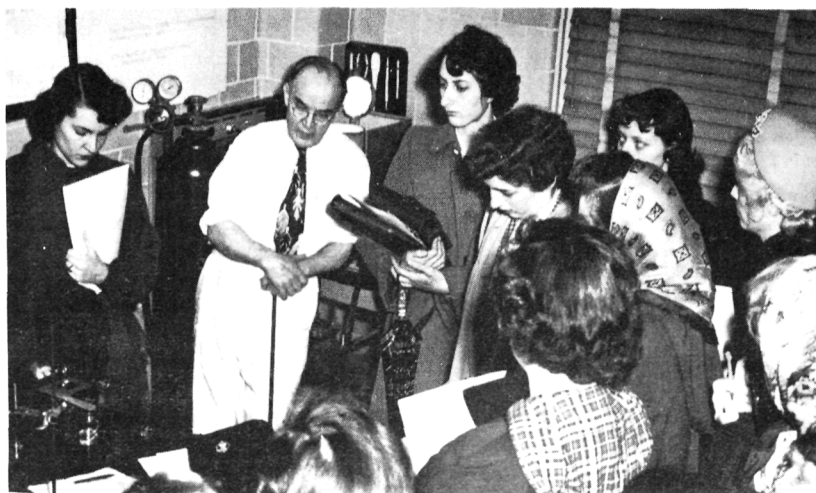
As the first internationally sponsored science motion picture, the film is endorsed by the United Nations and the World Health Organization. Versions with foreign-language sound tracks will be distributed for world-wide showing.

The world premiere of the 30-minute documentary film was held at Hunter College Auditorium, New York City, on March 13, before an audience of 2,600 scientists, physicians, health officials, United Nations representatives, and other guests. Dr. Norman H. Topping, Associate Director of NIH, spoke at the premiere showing in Ottawa, Canada, on March 19.

Research laboratories, scientists, and film technicians on both sides of the U. S.-Canadian border combined efforts to produce a graphic story of cancer research, reviewing its accomplishments and explaining why the skills of all the basic sciences are being mobilized against cancer.

The film visualizes today's cancer problem as a scattered jigsaw puzzle, with many parts missing. The most vital secrets of cancer, according to the film, are contained in every living cell. In dramatic animated sequences, chemical and physical processes that occur in both normal and cancer cells are illustrated. The cell expands to giant size and draws the spectator into its living interior, so that he can observe the intracellular functions of respiration, digestion, and reproduction.

Other portions of the film explain how cancer is diagnosed by examination of cells under the microscope and treated by surgery or radiation.



*Dr. Rees, MI, describes the work of the Laboratory of Tropical Diseases to visiting graduate nurses.*

## GRADUATE NURSES Cont'd

Patricia Jane, who is taking advanced courses in psychiatric nursing.

Among the speakers on the program were Murray A. Getz, Research Facilities Planning Branch, Office of the Director, NIH, who discussed plans for the new 14-story, \$40,000,000 Clinical Center, now under construction; Miss Rosalie Peterson, head of the Public Health Nursing Section, NCI; Dr. C. W. Rees, head of the Section on Protozoal Diseases, Laboratory of Tropical Diseases, MI; Dr. Edwin Murphy, NCI, on the Cytologic Test for Cancer; and Dr. Thelma B. Dunn, NCI, who presented a demonstration of phase microscopy.

The nurses also saw the film, "Rocky Mountain Spotted Fever Vaccine," on the life cycle of the tick and preparation of vaccine at the PHS Laboratory at Hamilton, Montana, and then visited several laboratories. Each student received a kit containing informative material on NIH, and pamphlets on Rocky Mountain spotted fever and cancer.

Speakers at the world premiere in New York included Dr. Brock Chisholm, Director General of the

(See CANCER FILM, Page 4)

## DRS. SCHEELE & DEAN ON DENTAL RESEARCH

The importance of integrating dental research with research in the biological and physical sciences was emphasized by both Surgeon General Leonard A. Scheele and Dr. H. Trendley Dean, Director of the National Institute of Dental Research, in talks they gave last month.

Dr. Scheele delivered the principal after-banquet address, "The Relation of Dental to Other Research," at the Fourth Annual Meeting of the American Academy of Oral Pathology at Chicago on February 5.

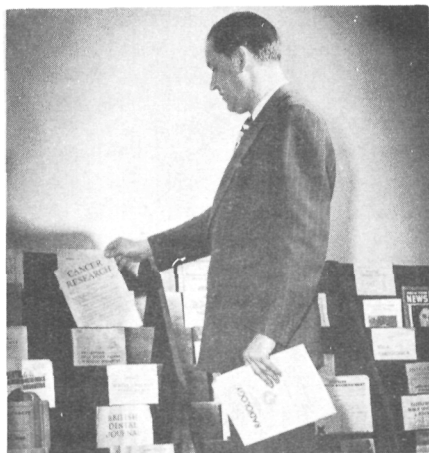
Dr. Dean spoke on the same subject when he was interviewed on the CBS radio program "Adventures in Science," sponsored by Science Service, on February 4.

Both pointed out that NIH has applied the interdisciplinary approach to dental research ever since our first dental project in 1931.

Cooperating in that project were Dr. Dean, a dental epidemiologist; Dr. Elias Elvove, a water chemist; and Dr. F. J. McClure, a biochemist.

Today, at the Dental Institute, half of the researchers are PHS dental officers, generally with graduate-school training, and the rest are scientists with Ph.D. degrees in the basic sciences.

## COLLINS TO DIRECT NIH GOLF ACTIVITIES



The Federal Golf Association, a non-profit organization dedicated to the advancement of golf and other sports, has designated Aeneas P. Collins as the 1950 Agency Commissioner to organize and direct golf activities at NIH.

A series of Blind Bogey Tournaments is planned for the months of March and April, to provide scores for handicapping new, old, and prospective members. The first of these events was scheduled to be held concurrently Saturday and Sunday, March 25 and 26, at East Potomac, Rock Creek, and Anacostia.

For further information, contact Mr. Collins, Bldg. 1, Ext. 541.

## CANCER FILM (Cont'd)

WHO; Oscar R. Ewing, Federal Security Administrator; and Dr. L. A. Scheele, Surgeon General of the Public Health Service.

Among NCI medical and scientific advisors on the film were Dr. I. Berenblum of Oxford University, a Special Research Fellow at NCI; Dr. H. B. Andervont, Chief of the Biology Section; Dr. H. W. Chalkley, Assistant Chief, Grants and Fellowships Branch; Dr. Austin V. Deibert, Chief, Control Branch; and Dr. W. C. Hueper, Chief of the Cancerigenic Studies Section.

The film was made by the National Film Board of Canada and the Medical Film Institute of the Association of American Medical Colleges.

*NIH RECORD published by Scientific Reports Branch, National Institutes of Health -- OLiver 1400, Ext. 462.*

## CIVIL SERVICE NEWS

The Civil Service Commission has formally notified agencies of its decision to abolish the requirement that a Federal employee must serve at least six months in his grade before he can be promoted.

The above change does not, however, affect the requirement of six months' service after appointment or acquisition of competitive status.

## RED CROSS DRIVE FOR \$4,179 UNDER WAY

The 1950 Red Cross campaign for funds is now under way.

These funds will go toward the many activities sponsored by the organization, such as home nursing, instruction in first aid, various kinds of assistance to hospitals, public and private recreation, and occupational therapy and welfare.

Our quota is \$4,179, or approximately \$2.50 per employee on the reservation. Give as generously as you can when approached by the volunteer soliciting your office or laboratory.

## GOV'T WORKERS TO GET MORE INJURY BENEFITS

Additional benefits for Federal workers who sustain injury or disease in connection with their work are provided by the Federal Employees' Compensation Act of 1949.

Most significant is the increase in maximum compensation for death or disability, from \$116 to \$525 per month.

For information on filing claims, employees should contact either the Health Unit or the Personnel Office.

## NCI ISSUES PAMPHLETS

An explanation of what cancer is, and how you can protect yourself and family against the disease, is given in five pamphlets published by the National Cancer Institute. The pamphlets were prepared in cooperation with the American Cancer Society.

## HAMSTERS ARE ACTING MIGHTY MYSTERIOUS

The Hamsters are acting mighty mysterious about their next original extravaganza.

"It'll be a musical," Hamster Chairman Jack Beecher admits. "We've asked the NIH Glee Club to cooperate with us."

"What's the subject?"

"Ah-hah!" says Mr. Beecher.

The big show is scheduled for October.

In the meantime, however, just to keep their hand in, the Hamsters may run through a one-act comedy this summer.

A committee of two--Miss Zelda Schiffman of Management Analysis and Miss Jane Sundelof of Personnel--has been appointed to draw up recommendations for the possible summer show.

If you want to join the fun, just phone Louise Dauberman at Ext. 2072.

## ACKNOWLEDGMENT

The aerial photograph of the Clinical Center, reproduced in the March 13 NIH Record, page 1, was kindly provided by Tom Kelly, of the Washington Post. The photographs in the current issue were taken by the Photo Service and Research Section, NIH.

## Have You Read - ?

Albert Einstein: Philosopher-Scientist, Paul Arthur Schilpp (ed.). Vol. 7, 781 pp., The Library of Living Philosophers, Inc.: Evanston, Ill. (1949) \$8.50

Bridging the fields of physics and philosophy, 25 authorities discuss the life and work of Albert Einstein, eminent theoretical physicist. In addition to this collection of descriptive and critical essays, the book includes a 95-page autobiography by Professor Einstein, presented in the original German with a translation by the editor.

The autobiography is devoted largely to a discussion of achievement in physics during the past 50 years. Other features of the book include Einstein's reply to the essays, a bibliography of his writings, and excellent portraits and diagrams.